

OCT 30 1939

# FISHERY MARKET NEWS

OCTOBER 1939



ISSUED BY THE  
UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF FISHERIES  
WASHINGTON

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
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## FISHERY MARKET NEWS

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# FISHERY MARKET NEWS

A REVIEW OF CONDITIONS AND TRENDS OF THE COMMERCIAL FISHERIES

October 1939

Washington, D. C.

Vol. 1, No. 10

## SUMMARY

### Fresh Fish

New England.--August vessel landings decreased 5 percent in quantity and 3 percent in value as compared with a year ago. Mackerel landings show marked increase in August. Vessel landings for the first 8 months of 1939 amounted to 260,952,000 pounds, valued at \$6,121,000, a decrease of 7 percent in quantity, but an increase of 1 percent in value, as compared with last year.

Maine.--Supplies of herring large and a few firms completed their season's pack by August 1. Prices for fresh herring low. Good catches of lobsters made in Hancock County.

Massachusetts.--Fishermen received increased prices for their catch after Labor Day. The fishery for bay scallops opened in most areas on October 1, with prices ranging from \$1.26 to \$1.35 per gallon. Large catches of small mackerel landed in September. Swordfish catch greater than in 1938.

New York.--Production of fluke greater than in 1938, with catches consisting largely of small fish. Sea bass taken in increasing quantities after September 1. Long Island crab production far below normal. Oysters in better than usual condition when the season opened.

New Jersey.--Market for hard clams poor. Seed oyster planting increases.

North Carolina.--Haul seine catches of mullet satisfactory. Shrimp landings at Southport during early September were small with catches consisting of shrimp of uneven size.

Louisiana.--Crab catches during 1939 greater than in recent years. Heavy local consumption of soft crabs assists in marketing increased catch. Shrimp prices show range of from \$4.50 to \$7.50 per barrel.

Great Lakes.--Lake Erie whitefish production increases. Ciscoe catches smaller than anticipated. Chicago fish receipts average 1 pound per person each month.

Pacific Coast States.--Halibut landings during the first 6 months of the season accounted for 95 percent of the year's quota. Prices for halibut advance as closed season nears.

### Frozen Fish

Domestic cold-storage holdings of fish on September 15 less than in 1938. Freezing of mackerel during the month ended September 15 shows large increase. Frozen sturgeon is leading item held by New York City cold-storage warehouses on September 28. Nearly one-half of frozen fishery products held in Boston during the latter part of September consisted of fillets. Canadian cold-storage holdings on October 1 greater than in 1938.

### Canned Fish

Unsold stocks of all species of canned salmon less than in 1938. Canned salmon prices advance. Shrimp pack considerably greater than a year ago. California tuna pack for the first 8 months of 1939 totaled 2,291,000 standard cases, an increase of 17 percent as compared with last year. Mackerel pack in California in the first 8 months of this year 39 percent less than in 1938. British Columbia pack of all species of canned salmon, except pink salmon, less than last year.

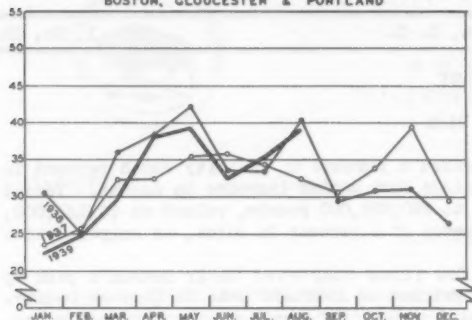
### Foreign Trade

Imports of edible fishery products in August increased 14 percent over a year ago, while exports decreased 18 percent. During the first 8 months of this year edible fishery imports increased 22 percent due to large volume of salted herring, canned sardines, crab meat, and tuna received in this country. Exports of canned sardines during the current year show marked increase.

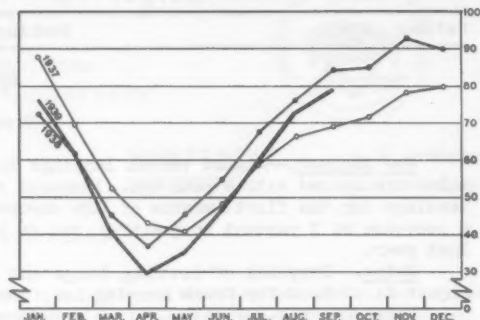
# TRENDS OF FISHERY TRADE

In millions of pounds

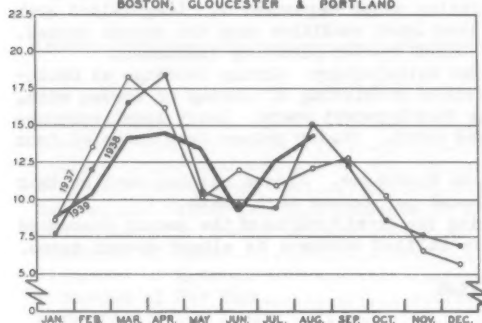
VESSEL LANDINGS, ALL FRESH FISH  
BOSTON, GLOUCESTER & PORTLAND



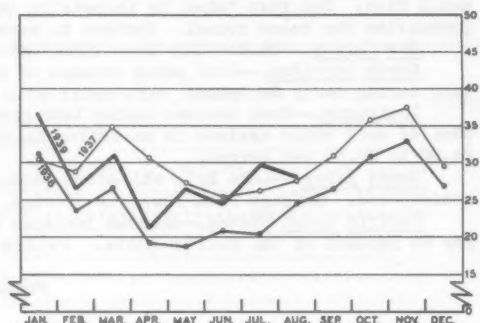
DOMESTIC COLD-STORAGE HOLDINGS OF FROZEN FISH



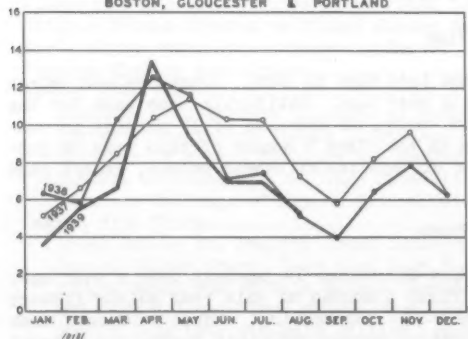
VESSEL LANDINGS, FRESH HADDOCK  
BOSTON, GLOUCESTER & PORTLAND



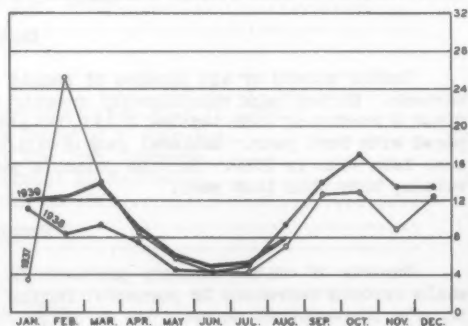
IMPORTS OF EDIBLE FISHERY COMMODITIES



VESSEL LANDINGS, FRESH COD  
BOSTON, GLOUCESTER & PORTLAND



EXPORTS OF EDIBLE FISHERY COMMODITIES



## UNUSUAL CANNED SEAFOODS ARE OF MANY VARIETIES

By Norman D. Jarvis  
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There are some 160 species or groups of closely related species of domestic fish and other seafoods utilized regularly for food in the United States. Eight of these are canned on a large commercial scale while many others are packed in smaller quantities. The total production of the fish and seafood canning industry amounted to about 667,000,000 pounds in 1938, according to recent statistics. Salmon was the most important individual product, with 349,000,000 pounds packed in the United States and Alaska, or 52 percent of the total. Next in importance were sardines, tuna, mackerel, pet food, clam products, shrimp, and oysters, in the order named. These 8 commodities accounted for 651,000,000 pounds of the 1938 pack, or 98 percent of the total, while at least 35 other canned fishery commodities made up the remainder. The number may be greater as only those products are included which were being canned at the time a recent survey of the commercial fish and seafood canning industry was made by the writer. It is, therefore, safe to say that the variety of canned domestic fruits, vegetables, or meats cannot equal the variety of canned fishery products offered. If some of these many little-used products were better known, they would be in much wider demand, lessening the possibility of depletion of the more popular varieties.

Most of these lesser-known products are packed on a regional or local scale and are largely distributed within the locality. Thus, in discussing them, we shall begin with the New England area. Many people who go to the Maine seacoast enjoy a local specialty, clam cakes, and wish that they might be obtained at their homes in other parts of the country. This is possible, for a small pack of clam cakes—a good quality product, too—is canned in Maine. The amount packed is limited because it is not widely advertised so that the demand is local with the exception of small shipments sent mostly to former summer visitors at their homes in other parts of the country.

The Maine sardine is thought of as a good article selling in the lower price range; but, in addition to the standard pack, there are a number of Maine sardine specialty products which do not need to fear comparison with "fancy" imported sardine specialties. Only a few hundred cases of such specialties are prepared each year as the packing costs are much higher than those of the standard article and the canners cannot afford to prepare them in extensive, direct competition with the foreign product. Some of these are small selected sardines in spice-flavored oil, sardines fried in olive oil and packed in wine sauce, and sardines packed in butter with bay leaves and other spices. There is even an occasional pack of sardines in soya bean oil or mineral oil, for the benefit of the "health faddist".

New England fish chowder is a tempting dish when properly prepared at home, but this takes time and effort and the homemaker of today does not wish to have a chowder kettle simmering on the back of the stove for several hours. But now this is not necessary, for several New England packers prepare a very good canned fish chowder. It should be sold much more widely.

On the New England coast there are also prepared, in canned form, the old-fashioned New England codfish cake, more modern varieties of the fish cake, and Norwegian-style fish balls, which are eaten with relish by Americans of Scandinavian descent. All of these are excellent as hot appetizers for the cocktail hour. There are also fish flakes, the cooked meat of selected haddock, freed from skin and bone. Fish flakes may be used in a variety of ways, but the best is in a hot casserole dish with shrimp, mushrooms, and lobster, or crab, if desired. Then, there is finnan haddie, a delicately flavored smoked fish which is ordinarily perishable. It is now canned and in this form will keep indefinitely, at the same time retaining its original flavor.

The greatest variety of canned fishery specialties is canned in New York City. First, come eels, both smoked, and "pickled" in jelly. Then, there are canned pickled mussels and just plain canned mussels. The delicacy of the famous Guildhall dinner of the Lord Mayor of London, green turtle soup, is also canned in New York. Herring salad is thought of as a



local, freshly prepared, delicatessen specialty, but it may be shipped anywhere in the country and is suggested to those who are looking for something unusual in hors d'oeuvres. It is a New York canned specialty product, one of a whole line of "delicatessen" packed in glass or tin. There are anchovies; antipasto; caviar (both "black" and "red"); smoked hali-but; smoked boneless and skinned herring; bismark herring, rollmops, gaffelbiter, and other varieties of spiced herring; lobster in various prepared forms; spiced salmon; and other specialty commodities.

If we travel down the coast to the Chesapeake Bay district, we can find such fishery delicacies being canned as terrapin stew; then, there are pastes for sandwich spreads or canapes, utilizing such seafoods as anchovy, lobster, salmon, sardine, shrimp, and tuna. Then, there is cream of oyster soup; and cream of shrimp soup. There are even some soft-shell crabs canned.

River herring roe is not a specialty commodity as it is packed in some quantity, but it is a neglected regional product from Maryland and Virginia. For the past several years the consumer has been paying an average of only 15 cents per pound can of herring roe. Herring roe has a delicate flavor with a texture that almost "melts in your mouth", but it just is not widely known, and the lowered purchasing power of the population of the Chesapeake Bay area in the last few years has affected the previously existing price and demand.

Most of the canned crab consumed in the United States is imported from Japan—an average of 11,000,000 pounds, which is equal to the total domestic production of both the canned and fresh-cooked product. That is because no extensive crab-canning industry has been developed in this country. However, nominal packs are produced in the South Atlantic and Pacific Coast States, and in Alaska. There are indications that with improved methods it may be possible to build up a more extensive crab-canning industry in the United States.

In the country around New Orleans the canned fish specialties are typical of the Creoles. There are crab gumbo; snapping turtle soup; crayfish bisque; frog legs or frog a la king; and "courtbouillon", that delicious Louisiana fish soup. Canned shrimp is packed with little green peppers, giving it a pungent, spicy taste; and there is "cocktail" shrimp. All these and others may be bought from New Orleans dealers handling fancy groceries.

The Pacific coast is thought of as a mass production center for the canning of a few types of canned fishery products in quantity, but a variety of specialty products is prepared as well. First, there is salt codfish, vacuum sealed in tin cans, so that it does not scent up the store. It is a pleasure for the retailer to handle, and, according to packers and dealers, it retains flavor and appearance better than the old-fashioned article.

In Seattle a smoked salmon comparing favorably with the "lax" imported from Sweden is packed in little flat cans with olive oil. Seattle and several other points on the Pacific coast offer a whole line of prepared, "ready to serve", seafood cocktails--clam, crab, shrimp, and oyster--packed in glass. The Pacific Northwest also offers bottled clam juice and a Jugo-Slav type of sandwich spread made from smoked salmon.

The Columbia River country is well known for its chinook salmon, but it is also the home of a new and unique specialty product--smoked oysters. A smoked oyster paste is also prepared as a sandwich spread. Canned smoked sturgeon is another local specialty.

California offers such novelties as mackerel, canned tuna style; tuna, flavored with garlic; creamed tuna; and "tonno" or tuna packed Italian style. Sardines are packed in several styles such as in spice sauce. The slithery and many-armed squid is canned in California in two styles--"natural" and in oil. Canned shad roe, packed on the Sacramento River of California, sells at fancy prices in the best grocery stores of eastern cities.

The Bureau of Fisheries recently published 100 different recipes for hors d'oeuvres utilizing many of the specialties described here. This publication is obtainable on request.

## WHOLESALE FOOD PRICES UP

Wholesale food prices increased 8.6 percent during the period from September 2 to September 30 but decreased 0.9 percent from September 23 to September 30, according to the U. S. Bureau of Labor Statistics. On August 15 the retail price of a 16-ounce can of pink salmon averaged 13.0 cents in 51 cities throughout the country, increasing from 12.8 cents on July 18. During the same period the average retail price of a 16-ounce can of red salmon increased from 22.9 cents to 23.1 cents.

## NEW ENGLAND VESSEL LANDINGS DECREASE IN AUGUST

Landings of fishery products at the ports of Boston and Gloucester, Mass., and Portland, Maine, by fishing vessels during August totaled 39,135,000 pounds, valued at \$862,000, a decrease of 5 percent in quantity and 3 percent in value as compared with the same month last year. The principal items landed during August were haddock, 14,352,000 pounds; rosefish, 8,356,000 pounds; cod, 5,262,000 pounds; whiting, 3,582,000 pounds; and mackerel, 2,691,000 pounds. There was a large increase in the landings of mackerel during August, the receipts of these fish at the three ports exceeding the landings for the same month last year by nearly 200,000 pounds. This is in marked contrast to the landings of 499,000 pounds in July of this year which amounted to less than 10 percent of the quantity landed during July 1938.

Landings at the three ports during the first 8 months of 1939 totaled 260,952,000 pounds, valued at \$6,121,000. This is a decrease of 7 percent in quantity but an increase of 1 percent in value as compared with the same period last year. Receipts of flounders, swordfish, whiting, wolffish, and rosefish increased in volume during the first 8 months of the year, while those of cod, haddock, hake, pollock, cusk, halibut, and mackerel decreased. Landings of mackerel during the first 8 months of the current year amounted to but 6,063,000 pounds as compared with 16,330,000 pounds in the same period last year, and an average of 19,430,000 pounds for this period during the past 5 years.

Vessels taking rosefish continued to deliver the major portion of the catch of these fish to Gloucester and landings of rosefish at this port in August accounted for 55 percent of the total vessel landings at Gloucester during the month. Receipts of rosefish at the three ports during the first 8 months of the current year amounted to 51,649,000 pounds. This is nearly 6,000,000 pounds more than the largest previous landings for this period, which were made in 1938.

## BOSTON LEADS IN VESSEL LANDINGS

A preliminary tabulation of the landings of fresh fish by fishing craft prepared by the New York Fishery Market News Service office ranks the various ports in the New England and Middle Atlantic States for the first 6 months this year in the following order: Boston 149,516,000 pounds, Gloucester 28,441,000 pounds, New York 23,487,000 pounds, New Bedford 9,811,000 pounds, Portland 8,429,000 pounds, and Provincetown 1,346,000 pounds. The figures do not include landings of scallops; landings of fishing craft under 5 net tons in Boston, Gloucester, and Portland; and landings of trap boats at Provincetown.

## FISHERIES OF MAINE

Sea herring.--By August 1, owing to the large supply of herring available, a few of the Maine plants had completed their pack for the season. Large imports of herring from Canadian weirs are claimed to have at times depressed the price to the fisherman to as low as 46 cents per bushel.

Tuna.--Much interest in both commercial and sport tuna fishing is being displayed in the Casco Bay area.

Lobsters.--Good lobster catches were reported in sections of Hancock County during the latter part of August and first part of September; however, other areas reported only light activity. Prices during this period varied from 12 cents to 17 cents per pound.

#### FISHERIES OF MASSACHUSETTS

A sharp rise in prices of all species of Massachusetts fish was noted immediately after Labor Day. Prices for the first half of September were well above those prevailing for the month of August. Light supplies in addition to the outbreak of European hostilities are thought to have been responsible for this increase.

Bay scallops.--The fishery for bay scallops in most of the fishing areas of Massachusetts started on October 1. In a few sections the opening has been deferred until November 1 in the hopes that prices will increase. This fishery is highly important to several coastal towns in the State since it often is the sole source of income to many workers. With the opening of the bay scallop season relief rolls in these sections may be expected to decrease. For the past several weeks fishermen in Barnstable and Dukes Counties have been preparing their gear and craft for the current season. While fishermen in some of the towns of Barnstable County are permitted to use power dredges for the taking of these mollusks, only hand dredges may be used in Dukes County.

Mackerel.--Mackerel seiners, according to the Bureau's agent in Massachusetts, began delivering large catches of tinkers about the middle of September. Prices ranged from 1 cent to slightly over 2 cents per pound. Large mackerel were quoted at 4 cents to 10 cents per pound to the fisherman.

Pollock.--Catches are about average as compared with previous years.

Swordfish.--With the swordfishing season approaching its termination by the middle of September, it is understood that most vessels fared better this season than during that of 1938. Prices were comparable to those of the previous season but the quantity of swordfish landed increased.

General.--September prices of scallops ranged from \$1.26 to \$1.35 per gallon, which is well above the 1938 average. During the same month lobster prices increased, the fishermen receiving 14 cents to 28 cents per pound, depending upon the size and quality of the shellfish. Large cod averaged approximately 5 cents per pound and market cod ranged from 2 cents to 5 cents per pound during the same period of September.

#### FISHERIES OF NEW YORK

Fluke.--Production of this species is said to be from 20 percent to 30 percent higher than in 1938. Prices have remained low primarily because of the small average size of the fish rather than because of the increase in supply.

Sea bass.--All sizes of sea bass have remained rather scarce until the first part of September when this species began to appear in abundance. Prices ranged from 6 cents to 14 cents per pound, depending upon the size and quality of the fish.

Weakfish.--According to reports of the Bureau's agent on Long Island, weakfish catches in Great South Bay and along the south shore of the Island showed a definite increase about September 10. Few large fish were taken; however, the prices ranged from 4 cents to 18 cents per pound.

Crabs.--With the exception of the first two weeks of the current crab season, Long Island crab catches have been practically nil. Estimates are that there will be as high as 90 percent decrease in the quantity of crabs taken during this season as compared with the previous year. Many fishermen claim that the crabs disappeared when the bottom grass died out in large areas of the bays. As a result, prices of soft crabs have been ranging from \$1.00 to \$1.50 per dozen to the fishermen.



Oysters.--At the opening of the oyster season, September 1, prices apparently were steady at \$1.75 per bushel. New York oysters are reported as being in better condition than usual this year.

#### FISHERIES OF NEW JERSEY

Hard clams.--Market demand is reported by the Bureau's agent in New Jersey to have been very poor throughout all of the 1939 season, resulting in a definite curtailment of the number of regular commercial clambers operating in most sections of the State.

Oysters.--It is understood that in the Barnegat Bay area seed oyster plantings have increased 35 to 50 percent during 1939 as compared with 1938. In the Mullica River area several thousand bushels of seed oysters were taken from the deep water beds of the river by the State and replanted on public grounds in Great Bay, thereby providing more accessibility to tongers.

#### FISHERIES OF NORTH CAROLINA

Mullet.--Good haul seine catches of mullet are reported by the Bureau's agent in North Carolina. During the first part of September prices to the fishermen averaged from 3 cents to 4 cents per pound.

Menhaden.--Fishing has been restricted in the Morehead City region, primarily because of unfavorable weather conditions. Catches at Southport are said to have been more encouraging to plant operators.

Shrimp.--Southport catches during the first two weeks of September were not only small but consisted of shrimp of very uneven size. Low prices prevailed.

#### FISHERIES OF LOUISIANA

Hard crabs.--According to New Orleans dealers, the 1939 crab season so far has been the best season experienced in several years. Catches have been larger than usual.

Hard crabs have been successfully shipped alive to several markets by a dealer in Des Allemandes, La. The crabs are kept alive by packing them between thick layers of Spanish moss that has been thoroughly soaked in salt water. Between each layer of moss is placed a layer of crushed ice. When transported to market in refrigerated cars, crabs packed in this manner are claimed to suffer a very small mortality.

Soft crabs.--Production this year has been above normal with prices remaining steady. Local market prices during the first part of September ranged from \$0.60 to \$1.50 per dozen, depending upon the size of the crabs. Heavy local consumption aided in maintaining a relatively steady price.

Shrimp.--Catches of shrimp in western Louisiana waters during the present season to September 15 have been small. Consequently, many of the shrimp plants remain inoperative. Prices fluctuated from \$4.50 to \$7.50 per barrel. Catches in eastern Louisiana waters have been relatively good.

#### FISHERIES OF THE GREAT LAKES

Whitefish.--Whitefish catches in Lake Erie during September are reported by Pennsylvania fishermen as being the largest in several years.

Ciscoes.--Although ciscoes in Lake Erie have not appeared in the abundance which was predicted for this year, the fish are of much larger average size individually. It is claimed that the average weight is about one pound as compared with little over a half pound in 1938.

## CHICAGO FISH RECEIPTS AVERAGE ONE POUND PER PERSON EACH MONTH

Enough fish to supply every member of Chicago's population with 1 pound per month was delivered to that city's wholesale fish market during the first 8 months of the current year, according to statistics collected and compiled by the Bureau's Market News Service. The latest statistical compilation shows that the receipts of fresh and frozen fish and shellfish on the Chicago market during that period amounted to 29,021,000 pounds, an average of 3,628,000 pounds per month. Sixty percent of the Chicago receipts was fresh-water fish--principally sauger, lake trout, and whitefish; 25 percent was salt-water fish--largely halibut and rosefish fillets; while 15 percent was shellfish--chiefly shrimp. In volume, the most important species received during the 8 months was sauger, with total receipts amounting to 2,884,000 pounds. Wisconsin supplied the market with more fishery products than any other point, shipping 3,904,000 pounds. Manitoba, with 3,845,000 pounds, followed. These receipts were transported to Chicago by three types of carriers. In order of importance, they were rail freight, which carried 37 percent of all receipts; express, 34 percent; and truck, 29 percent.

During August the Chicago market handled 3,294,000 pounds of fishery products. Compared with July, this was a decrease of 4 percent. These fishery commodities were segregated into 68 classifications and came from 22 States, Alaska, and 7 Provinces of Canada. The principal species arriving, in poundage, was halibut with 561,000 pounds, 82 percent of which came from British Columbia. However, a large part of the latter figure is made up of halibut taken by United States fishermen in United States vessels, landed in British Columbia, and shipped to Chicago in bond. The largest part of the August receipts, 45 percent, was transported by express; motor-trucks carried 35 percent; and rail freight 20 percent.

The Market News figures show that during the 12 months since the opening of the Fishery Market News Service office in Chicago on September 1, 1938, the Chicago market received fishery products totaling 42,000,000 pounds.

## FISHERIES LABORATORY TO BE ESTABLISHED IN VENICE, ITALY

According to information submitted by the American Vice Consul in Venice, Italy, a recent royal decree has authorized the establishment of an "observatory of sea fishing which is entered into being on July 1, 1939". This observatory, which is to be under the joint supervision of the Ministry for Agriculture and Forests and the Royal Central Laboratory of Hydrobiology, has as its objects the scientific study of the fisheries and fish raising in the Northern Adriatic, in the lagoons, and in the salt-water fishing preserves; and the giving of such assistance to the fishing industry as it can.

The studies will be concentrated particularly on the causes and remedies for the depletion of fishery resources in that part of the Adriatic Sea which lies within the jurisdiction of the Province of Venice.

Prior to the World War the fleet of fishing smacks serving the Venice market were permitted through treaty with Austria to fish in the eastern waters of the Adriatic Sea but with the fall of Austria the treaty lapsed, resulting in the concentration of fishing activities in Italian waters. This drain in the waters of the Western Adriatic Sea has resulted in a grave scarcity of supply.

## HALIBUT PRICES ADVANCE AS CLOSED SEASON NEARS

Landings of halibut at Pacific Coast ports during September 1939 totaled 4,722,000 pounds. During the 6 months since the season opened on April 1, fishermen have landed approximately 45,630,000 pounds of halibut at Seattle, Wash., and at ports in British Columbia and Alaska, or 95 percent of the amount permitted to be landed during the year.

Data on the amount received by fishermen for halibut, which are available for the landings at Seattle, Wash., indicate that there was a considerable rise in the average price

received for these fish during August and September. In the 4 months from April 1 to July 31, fishermen landing halibut at Seattle received an average of 7.6 cents per pound for their fish. In August the price advanced to an average of 9.7 cents per pound and in September to an average of 11.5 cents.

During the first 6 months of the 1939 halibut season Canadian vessels landed 18 percent of the fish taken while United States vessels landed 72 percent. Prince Rupert, B. C., led the various ports in the quantity of halibut landed with 18,010,000 pounds, followed by Seattle with 17,340,000 pounds; Alaskan ports, 6,850,000 pounds; Vancouver, B. C., 2,880,000 pounds; and ports on Vancouver Island, 550,000 pounds.

#### WORLD WHALE CATCH UNDER PRECEDING SEASON

The Norwegian Delegation at the International Whaling Conference in London during July of this year reported that 38,321 whales were taken in the world's Antarctic whaling activities during the 1938-39 season, according to information published in the July issue of "Norsk Hvalfangst-Tidende" (The Norwegian Whaling Gazette). This is a decrease of 17 percent as compared with the 46,039 whales taken in the Antarctic during 1937-38, but an increase of 13 percent when compared with the average annual catch of 33,901 whales during the five seasons from 1933-34 to 1937-38. The catch during the recent season consisted of 20,783 finback, 14,059 blue, 2,591 sperm, 860 humpback, and 23 sei whales. Oil production amounted to 2,812,546 barrels of 50 gallons each. British whaling activities accounted for 32 percent of the Antarctic production of whale oil during the 1938-39 season. Following in order were Norway, 30 percent; Japan, 17 percent; Germany, 13 percent; United States, 3 percent; and Panama and Argentina, each 2 percent. While data are not yet available on the catch of whales or production of oil in areas other than the Antarctic for the 1938-39 season, it may be stated that these areas accounted for only 8 percent of the total world's production of whale oil in the 1937-38 season and an average of 6 percent for the ten seasons ending in 1937-38.

#### FOREIGN WHALING ACTIVITIES

The following items from Norwegian newspapers of recent dates indicate that it is doubtful if Germany or England will participate in the coming December-March Antarctic Season, and that any Norwegian expeditions that sail will do so at a considerable increase in their operating costs. This information is from "Foodstuffs Round the World", published by the Bureau of Foreign and Domestic Commerce on September 29, 1939.

"September 1: As to whether there will be any whaling this year, the German whaling fleet may well be excluded. The British fleet is already presumed to have been requisitioned for war use. One of their factories which was laid up at Aker for repairing has been called home.

"September 13: The arbitrators' judgment in the whaling conflict was announced today. Wages on the average have been increased 5 percent, and the share rates above 30 percent. The total increase amounts to about 17 percent. The sliding scale for the share rates has been maintained on the price basis of 270 crowns per ton, but the earlier limits have been dropped. War risk bonuses have been adopted as in the merchant marine. A system of index regulation has been adopted for the workers between seasons.

"September 14: Since the arbitrators' decision it is still an open question as to whether the fleet will go out. The first preparations have already been made and the first expeditions expect to leave within 8 to 14 days. Several expeditions do not expect that their factories and killer boats will come home after the end of the season if the war still continues. The crews will apparently be hired for an 18 months season.

"September 18: The Norwegian Whaling Employers' Association has issued a communique on its decision to send out whaling expeditions despite the heavy increase in costs and despite all uncertainty. The decision was received with great doubt, as all calculations of oil prices are impossible for the time being. There is practically speaking no oil at all on the market.

"September 19: From Tonsberg comes the information that the floating factory Skytteren may also be sent out but for Norwegian account instead of German.

"September 19: The Swedish company Nordstjaernen has recently bought Anders Jahres' 16,500 ton tanker which is under construction at the Oresund Yards. The ship will be taken over on October 16.

"September 18: The Norwegian crews who hired out for the German whaling expedition Walter Rau have recently received letters that they must be prepared for the eventuality that the expedition may not go out this year.

"September 15: Two whaling stations on the Norwegian coast have had to stop whaling operations already--six weeks before the close of the season. The reason is the crews either refuse entirely to go out on account of the danger of mines or demand a 75-100 percent war bonus for the rest of the season."

#### FROZEN FISH TRADE

##### Domestic Cold-storage Holdings of Fishery Products Less than in 1938

Cold-storage holdings of frozen fishery products totaled 79,173,000 pounds on September 15, 1939, as compared with 84,537,000 pounds on the same date last year and 72,765,000 pounds on August 15, 1939. The principal items in storage on September 15 of this year were halibut, 11,035,000 pounds; whiting, 9,756,000 pounds; haddock fillets, 7,558,000 pounds; mackerel, 6,268,000 pounds; salmon, 5,375,000 pounds; croakers, 3,396,000 pounds; and rosefish fillets, 3,206,000 pounds. Holdings of frozen fishery products increased during the month ending with September 15 in all sections except the South Atlantic area comprising the Coastal States from Delaware to Florida, inclusive, the District of Columbia, and West Virginia. The decrease in holdings in this section resulted principally from reduced stocks of croakers, Spanish mackerel, and shrimp. Increased holdings of haddock fillets, mackerel, and swordfish in the New England States, and of sablefish and salmon in the Pacific Coast States, accounted for the major portion of the increase in the holdings of frozen fish in these important sections.

Holdings of frozen fish (exclusive of shellfish) on September 15, 1939, totaled 72,007,000 pounds, a decrease of 7,079,000 pounds as compared with the holdings on the same date last year. Reduced holdings of haddock and pollock fillets, halibut, sea herring, sablefish, salmon, whitefish, and whiting accounted for the major portion of the decline. Important items held in greater quantities than a year ago were butterfish, croakers, mackerel, blue pike, scup, and sturgeon.

Stocks of frozen shellfish totaled 7,165,000 pounds on September 15, an increase of 1,713,000 pounds as compared with the same date in 1938. Holdings of shrimp and squid were considerably higher than on September 15 last year, while stocks of scallops and spiny lobster tails were lower.

A total of 20,778,000 pounds of fishery products was frozen during the month ending September 15, 1939. This is an increase of 153,000 pounds as compared with the same month last year, but a decrease of 1,665,000 pounds as compared with the amount frozen during the month ending August 15 of this year. The principal items frozen during the month were haddock fillets, 2,861,000 pounds; mackerel, 3,618,000 pounds; rosefish fillets, 1,764,000 pounds; salmon, 2,468,000 pounds; and whiting, 2,354,000 pounds. Freezings of most important items, such as haddock and rosefish fillets, salmon, and whiting, were less than during the same period last year. The only major items showing marked increases in the quantities frozen as compared with last year were mackerel and shrimp. Those of mackerel were unusually large, amounting to 3,618,000 pounds as compared with 319,000 pounds during the same period in 1938.

##### Boston Cold-storage Stocks 26 Percent Below Those of a Year Ago

Holdings of frozen fish and shellfish at Boston increased 6 percent during the 4-week period ending September 27, according to statistics compiled by the Market News Service.

On that date the holdings of all Boston cold-storage warehouses totaled 14,414,000 pounds. This gain was due primarily to increased storing of small mackerel and haddock fillets. The holdings this year represented a decrease of 26 percent as compared with those of a year ago. This decline was due chiefly to the fact that dealers were freezing and storing lesser quantities of whiting, haddock fillets, large and medium mackerel, and rosefish fillets than a year ago. Almost one-half of the total Boston holdings of frozen fishery products held on September 27 consisted of fillets, chiefly haddock and cod.

#### Holdings of Frozen Sturgeon and Mackerel at New York Increase

Due primarily to increased storing of sturgeon and mackerel, the holdings of frozen fishery products in New York City cold-storage warehouses showed an increase of 14 percent for the 4-week period ending September 28. Sturgeon holdings, increasing 64 percent during September, amounted to 1,034,000 pounds, exceeding in quantity all other species stored. Compared with sturgeon holdings of a year ago, this gain represented an increase of 81 percent. Mackerel holdings increased 90 percent during September to 556,000 pounds. The total holdings by New York warehouses on September 28, consisting of 62 classifications, amounted to 7,638,000 pounds, a decrease of 2 percent as compared with September figures of a year ago. Fishery products frozen in considerably lesser quantities this year were scallops, mackerel, common eels, spiny lobster tails, chinook salmon, and shrimp. Species stored in appreciably larger quantities than a year ago were shad, whitefish, squid, butterflyfish, and pulpi.

#### Chicago Cold-storage Holdings Show Little Change in September

Chicago holdings of cold-storage fishery products declined less than 1 percent during the 4-week period ending September 28. On that date 4,608,000 pounds of frozen fish and shellfish were stored. Compared with holdings a year ago, the present stocks were 413,000 pounds or 10 percent more. The principal items held on the last Thursday in September of the current year were blue pike and sauger, 830,000 pounds; smelt, 397,000 pounds; rosefish fillets, 351,000 pounds; and lake herring and chubs, 345,000 pounds. The bulk of the Chicago holdings--55 percent--was made up of fresh-water fish; salt-water species accounted for 27 percent; shellfish 12 percent; and unclassified fishery products 6 percent.

#### Canadian Holdings of Frozen Fish Greater than in 1938

Canadian holdings of domestically caught, frozen fishery products amounted to approximately 33,335,000 pounds on October 1, 1939, according to information released by the Dominion Bureau of Statistics. This is an increase of nearly 2,700,000 pounds as compared with the holdings on the same date in 1938, but 1,528,000 pounds less than the amount held on September 1 of this year. The principal items held on October 1 were sea herring, 6,200,000 pounds; mackerel, 4,700,000 pounds; salmon, 4,800,000 pounds; halibut, 6,300,000 pounds; whitefish, 3,000,000 pounds, and cod fillets, 1,400,000 pounds. Important items held in greater quantities than on October 1, 1938, were sea herring, which increased 15 percent; halibut, 2 percent; mackerel, 82 percent; and whitefish, 102 percent. The holdings of cod fillets on October 1 were 17 percent less than on the same date last year, while those of haddock fillets and salmon were 65 and 8 percent less, respectively.

#### CANNED FISH TRADE

##### Brisk Demand for Pacific Coast Canned Salmon

The canned salmon industry reports a brisk demand for the 1939 Pacific Coast salmon pack, particularly pink salmon and Columbia River chinook salmon, according to the Seattle Fishery Market News Service office. Stocks of unsold canned salmon on September 30 totaled 2,456,000 cases, 32 percent under the holdings on the same date in 1938. Holdings of pink salmon and chinook salmon decreased 50 percent and 45 percent, respectively, as compared with a year ago.



Average wholesale prices as quoted by Seattle brokers indicate a sharp increase in most species over a year ago, quotations on canned chum and pink salmon being approximately 50 percent higher than in October 1938.

Species	October 1939 Per dozen	October 1938 Per dozen
Chum or keta, 1 lb. tall.....	\$1.35 - \$1.40	\$0.85 - \$0.95
Humpback or pink, 1 lb. tall....	1.45 - 1.50	1.00 - 1.05
Silver or coho:		
1 lb. tall.....	1.90 - 2.00	1.50 - 1.60
1 lb. flat.....	2.10 - 2.15	1.85 - 2.00
Alaska red:		
1 lb. tall.....	2.35	1.85 - 1.95
1 lb. flat.....	2.50	2.20

#### Canned Salmon Stocks Less than Last Year

Unsold stocks of canned salmon on September 30, 1939, amounted to 2,456,000 cases as compared with 3,600,000 cases on the same date a year ago, according to the Association of Pacific Fisheries. Inventories of some of the more important varieties of salmon, along with the percentage decrease, as compared with stocks on hand on September 30, 1938, are as follows: Alaska red salmon, 1,514,545 cases, 15 percent; pink salmon, 636,843 cases, 50 percent; chum salmon, 142,213 cases, 40 percent; coho or silver salmon, 71,037 cases, 51 percent; Puget Sound sockeye salmon, 33,154 cases, 48 percent; and chinook or king salmon, 58,638 cases, 45 percent. No increases were noted.

#### Puget Sound Run of Pink Salmon Decreasing

On September 16 the Puget Sound salmon pack amounted to 326,000 standard cases as compared with 419,000 cases and 442,000 cases on corresponding dates in the comparable years of 1937 and 1935, respectively, according to the Washington State Department of Fisheries. Of the 1939 pack 78 percent was pink salmon--115,400 cases, or 45 percent, being packed in the week ending September 9. Only 14,500 cases were packed the following week, indicating the heaviest run has passed.

#### British Columbia Pink Salmon Pack Heavy in 1939

The British Columbia salmon pack totaled 1,166,000 standard cases on September 23 as compared with 1,308,000 cases on September 24 a year ago, according to the Chief Supervisor of Fisheries, Vancouver, B. C. Humpback or pink salmon made up approximately one-half of the pack with 571,000 cases as compared with 403,000 cases in 1938. All other important species were packed in lesser volume than in 1938, red or sockeye salmon decreasing from 423,000 to 256,000 cases, silver or coho salmon from 252,000 to 203,000 cases, and chum or keta salmon from 216,000 to 121,000 cases.

#### Shrimp Pack Over One-half Million Cases

Of the 503,000 standard cases of shrimp packed from July 1 to September 30 in the South Atlantic and Gulf States under the Sea Food Inspection Service of the Food and Drug Administration, the Jacksonville Fishery Market News Service office reports that 369,000 cases consisted of 5 3/4-ounce wet pack tins, 98,000 cases were 5-ounce dry pack tins, and 10,000 cases were packed in glass. The remaining 6,000 cases were packed in tin in other than standard sizes. The 1939-40 season is well ahead of the previous season's pack of 429,000 cases on October 1, 1938, and is equal to nearly one-half of that season's total of 1,086,000 cases. During the season to date 40 different canneries have operated an average of 29 days each, utilizing a total of 27 million pounds of raw shrimp in the packed product.

## California Tuna Pack Shows 17 Percent Increase

The pack of canned tuna in California from January 1 to August 31 amounted to about 2,291,000 cases of 48 one-half pound cans, according to preliminary statistics released by the Division of Fish and Game of the State of California. This is an increase of 17 percent as compared with the pack in the corresponding period of 1938. Of the total pack during 1939, 62 percent consisted of yellowfin tuna. Other varieties in the order of the importance of the packs through August 31 were striped tuna; bluefin tuna; albacore; bonito; tuna, tonno style; tuna flakes; and yellowtail. The pack was quite evenly distributed between the San Pedro and San Diego districts, the former contributing 52 percent of the total production. A very small amount was canned in the Monterey section.

## California Mackerel Pack Shows Large Decrease

The Division of Fish and Game of the State of California shows in a preliminary report that the pack of canned mackerel for the first 8 months of 1939 amounted to 287,000 cases of 48 one-pound cans as compared with 473,000 cases during the same period of 1938—a decrease of 39 percent. The canning of mackerel is concentrated largely in the San Pedro district where 87 percent of the pack during 1939 has been produced. The remainder of the pack was canned in the San Diego district.

## FOREIGN TRADE IN FISHERY PRODUCTS GREATER THAN A YEAR AGO

Imports of edible fishery products into the United States during August totaled 28,234,000 pounds, an increase of 14 percent as compared with the same month in 1938. The principal items imported were salted groundfish, 4,882,000 pounds; fresh and frozen fresh-water fish, 3,723,000 pounds; canned sardines, 3,455,000 pounds; canned crab meat, 1,025,000 pounds; canned tuna, 923,000 pounds; fresh and frozen lobsters, 916,000 pounds; and salted herring, 510,000 pounds. Imports of canned sardines were 36 percent greater than in the same month last year and were the largest for any month since March 1937.

During the first 8 months of 1939 the total imports of edible fishery products amounted to 226,336,000 pounds, an increase of 22 percent as compared with the same period last year. Important items showing marked increases in imports during the current year were salted herring, 19,142,000 pounds, an increase of 25 percent; canned sardines, 19,195,000 pounds, an increase of 51 percent; canned crab meat, 7,110,000 pounds, an increase of 29 percent; and canned tuna, 6,562,000 pounds, an increase of 30 percent.

Exports of edible fishery products during August totaled 7,872,000 pounds, a decrease of 18 percent as compared with the same month last year. Shipments of canned salmon to foreign countries during August amounted to 2,888,000 pounds, a decrease of 52 percent as compared with the same month last year, while those of canned sardines totaled 2,842,000 pounds, an increase of 148 percent.

The total exports of edible fishery products during the first 8 months of 1939 amounted to 70,449,000 pounds, an increase of 17 percent as compared with the same period last year. Exports of canned sardines during the first 8 months of the current year totaled 29,776,000 pounds, an increase of 47 percent, while exports of canned salmon amounted to 23,497,000 pounds, an increase of 3 percent.

Shipments of canned sardines to foreign countries during the first 8 months of the current year were equal to 24 percent of last year's domestic sardine pack, while those of canned salmon represent but 7 percent of the 1938 pack of this product.

Although canned salmon was exported to 49 countries during August, shipments to the United Kingdom alone amounted to 2,564,000 pounds or 89 percent of the total for the month. Exports of canned sardines during August consisted principally of 1,916,000 pounds shipped to Canada, 246,000 pounds to the Philippine Islands, and 154,000 pounds to Venezuela. These markets absorbed 81 percent of the canned sardines exported during the month.

**FISHERY TRADE INDICATORS**  
(Expressed in Thousands of Pounds)

Item	Month	Latest month	Same month a year ago	Previous Month
<b>FRESH FISH LANDINGS</b>				
Boston, Mass. ....	August .....	27,843	30,151	25,447
Gloucester, Mass. ....	do .....	9,687	7,960	7,635
Portland, Me. ....	do .....	1,594	2,208	2,263
Boston, Gloucester, and Portland:				
Cod.....	do .....	5,251	5,176	7,006
Haddock.....	do .....	14,352	15,099	12,634
Pollock.....	do .....	655	1,143	766
Rosefish.....	do .....	8,356	8,493	7,005
Pacific Coast:				
Halibut, North Pacific ports.....	do .....	5,231	5,256	9,870
Halibut, Seattle.....	do .....	2,380	2,609	3,148
<b>FISH RECEIPTS, CHICAGO 1/</b>				
Salt-water fish.....	do .....	1,041	(2)	1,001
Fresh-water fish.....	do .....	1,800	(2)	1,849
Shellfish, etc. ....	do .....	454	(2)	593
By truck.....	do .....	1,160	(2)	809
By express.....	do .....	1,473	(2)	1,928
By freight.....	do .....	661	(2)	707
<b>COLD-STORAGE HOLDINGS 3/</b>				
New York, N. Y.:				
Salt-water fish.....	September .....	3,691	4,046	3,140
Fresh-water fish.....	do .....	2,236	1,580	1,874
Shellfish, etc. ....	do .....	1,710	2,186	1,677
Boston, Mass.:				
Salt-water fish.....	do .....	12,873	18,150	12,141
Fresh-water fish.....	do .....	40	54	32
Shellfish, etc. ....	do .....	1,508	1,391	1,487
Chicago, Ill.:				
Salt-water fish.....	do .....	1,270	1,263	1,101
Fresh-water fish.....	do .....	2,520	1,706	2,529
Shellfish, etc. ....	do .....	540	647	664
Unclassified.....	do .....	278	578	347
United States:				
Cod fillets.....	do .....	2,234	2,386	2,775
Croakers.....	do .....	3,396	2,196	3,884
Haddock fillets.....	do .....	7,558	8,761	5,967
Halibut.....	do .....	11,035	13,577	11,448
Mackerel.....	do .....	6,268	5,899	3,504
Rosefish fillets.....	do .....	3,206	3,280	3,715
Salmon.....	do .....	5,375	8,746	3,369
Whiting.....	do .....	9,756	11,140	9,259
Shrimp.....	do .....	2,447	1,064	3,275
New England, all species.....	do .....	27,707	31,791	24,329
Middle Atlantic, all species.....	do .....	11,928	11,031	11,322
South Atlantic, all species.....	do .....	5,472	5,110	6,366
North Central East, all species.....	do .....	10,099	7,734	9,314
North Central West, all species.....	do .....	2,866	3,275	2,597
South Central, all species.....	do .....	1,363	862	1,257
Pacific, all species.....	do .....	19,717	24,765	17,564
<b>FOREIGN FISHERY TRADE 4/</b>				
Exports:				
All edible fishery commodities.....	August .....	7,872	9,548	5,236
Canned salmon.....	do .....	2,898	6,048	670
Canned sardines.....	do .....	2,842	1,147	2,795
Imports:				
All edible fishery commodities.....	do .....	28,234	24,855	29,640
Fresh-water fish and eels, fresh or frozen..	do .....	3,723	3,172	3,171
Canned tuna.....	do .....	923	673	869
Canned sardines.....	do .....	3,455	2,547	2,474
Cod, haddock, hake, etc., pickled or salted.	do .....	4,882	5,935	1,688
Herring, pickled or salted.....	do .....	510	778	361
Crab meat, sauce, and paste.....	do .....	1,025	1,063	980
Lobsters, not canned.....	do .....	916	713	2,066
Lobsters, canned.....	do .....	40	46	88

1/ Consists of direct receipts of dealers, brokers, and smokers.

2/ Data not available.

3/ Data for individual cities are as of the last Thursday of the month, except those at Boston which are for the last Wednesday of the month, and those for geographical areas and the total of the United States which are as of the 15th of the month.

4/ From data compiled by the Bureau of Foreign and Domestic Commerce.

Note.—Data for the latest month are subject to revision.

**PRINCIPAL FIELD OFFICES AND LABORATORIES  
OF THE U. S. BUREAU OF FISHERIES**

**Division of Fishery Industries**

Boston, Mass. ....	B. E. Lindgren.....	253 $\frac{1}{2}$ Northern Ave. Market News Service.....
Chicago, Ill. ....	E. C. Hinsdale.....	200 N. Jefferson St. Market News Service.....
College Park, Md. ....	J. M. Lemon.....	Horticultural Bldg., U. of Md. Fish. Tech. Laboratory....
Jacksonville, Fla. ....	S. C. Denham.....	309 Duval Bldg. Market News Service.....
New York, N. Y. ....	W. H. Dumont.....	33-A Fulton St. Market News Service.....
San Pedro, Calif.....	C. B. Tendick.....	Post Office Bldg. Fishery Statistics.....
Seattle, Wash. ....	V. J. Samson.....	421 Bell St. Terminal. Mar- ket News Service.....
Seattle, Wash. ....	R. W. Harrison.....	2725 Montlake Blvd. Fisher- ies Tech. Laboratory.....

**Division of Fish Culture**

LaCrosse, Wis. ....	C. F. Culler.....	Divisional Headquarters.....
Seattle, Wash. ....	F. J. Foster.....	2725 Montlake Blvd. Divi- sional Headquarters.....

**Division of Scientific Inquiry**

Ann Arbor, Mich. ....	Dr. John Van Costen.....	University Museums. Great Lakes Fish. Investigations
Beaufort, N. C. ....	Dr. Herbert F. Prytherch...	Fisheries Biological Labora- tory.....
Cambridge, Mass. ....	W. C. Herrington.....	Room A-210 Harvard Biol. Lab. N. At. Fish. Investigations
College Park, Md. ....	Robert A. Nesbit.....	Horticultural Bldg., U. of Md. Mid. & S. At. Fish. Invest.
Columbia, Mo. ....	Dr. M. M. Ellis.....	101 Willis Ave. Interior Waters Investigations.....
Milford, Conn. ....	Dr. Victor Loosanoff.....	New England Oyster Investi- gations.....
New Orleans, La. ....	M. J. Lindner.....	336 Chartres St. Gulf Shrimp Investigations.....
Pensacola, Fla. ....	Dr. A. E. Hopkins.....	Box 1456. Gulf Oyster In- vestigations.....
Seattle, Wash. ....	Dr. F. A. Davidson.....	2725 Montlake Blvd. Fisher- ies Biological Laboratory.
Stanford University, Calif.	O. E. Sette.....	Room 450-B Jordan Hall. Pil- chard Investigations.....

**Division of Alaska Fisheries**

Cordova, Alaska.....	C. L. Olson.....	Alaska Fisheries Service....
Juneau, Alaska.....	R. A. Ferrandini.....	Federal Bldg. Alaska Fish- eries Service.....
Ketchikan, Alaska.....	A. W. Hawkins.....	Alaska Fisheries Service....
Seattle, Wash. ....	J. Steele Culbertson.....	706 Federal Bldg. Alaska Fisheries Service.....

## FISHERY INDUSTRIAL AND MARKETING PUBLICATIONS

There follows a list of some of the industrial or marketing publications of the Bureau of Fisheries, which are available for purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices quoted. Price List 21, which includes a complete list of the available publications of the Bureau, may be obtained from the Superintendent of Documents, free of charge.

### INVESTIGATIONAL REPORTS

- No. 43. Some Effects of Ultraviolet Irradiation of Haddock Fillets. 1939. 5¢.
- No. 42. A Plan for the Development of the Hawaiian Fisheries. 1939. 10¢.
- No. 41. The Mineral Content of the Edible Portions of Some American Fishery Products. 1938. 5¢.
- No. 40. Pacific Salmon Oils. 1939. 5¢.
- No. 39. Trade in Fresh and Frozen Fishery Products and Related Marketing Considerations in the San Francisco Bay Area. 1938. 10¢.
- No. 38. Marketing of Shad on the Atlantic Coast. 1938. 10¢.
- No. 37. Preliminary Report on the Cause of the Oyster Industry of the York River, Va., and the Effects of Pulp-mill Pollution on Oysters. 1938. 10¢.
- No. 32. Studies on Drying Cod and Haddock Waste. 1935. 5¢.
- No. 30. Effect of Manufacture on the Quality of Noncily Fish Meals. 1935. 5¢.
- No. 28. Studies on the Utilization of Swordfish Livers. 1935. 5¢.
- No. 26. Fishery for Red Snappers and Groupers in the Gulf of Mexico. 1935. 5¢.
- No. 25. The Iodine Content of Some American Fishery Products. 1935. 5¢.
- No. 24. Modifications in Gear Curtail the Destruction of Undersized Fish in Otter Trawling. 1935. 5¢.
- No. 21. Shrimp Industry of the South Atlantic and Gulf States. 1934. 10¢.
- No. 20. Studies on the Smoking of Haddock. 1934. 5¢.
- No. 18. The Iodine Content of Oysters. 1934. 5¢.
- No. 17. Studies on the Nutritive Value of Oysters. 1933. 5¢.
- No. 16. Developments in Refrigeration of Fish in the United States. 1932. 5¢.
- No. 14. Fisheries of the Virgin Islands of the United States. 1932. 5¢.
- No. 13. Fisheries of Puerto Rico. 1932. 5¢.
- No. 7. Market for Marine Animal Oils in the United States. 1931. 15¢.
- No. 1. Menhaden Industry. 1931. 25¢.

### FISHERY CIRCULARS

- No. 25. Natural History and Methods of Controlling the Common Oyster Drills. 1937. 5¢.
- No. 23. Decline in Haddock Abundance on Georges Bank and a Practical Remedy. 1936. 5¢.
- No. 22. Organizing and Incorporating Fishery Cooperative Marketing Associations. 1936. 5¢.
- No. 21. The Story of Oysters. 1936. 5¢.
- No. 19. Practical Fish Cookery. 1935. 5¢.
- No. 18. Conditions Affecting the Southern Winter Trawl Fishery. 1935. 5¢.
- No. 15. Aquatic Shell Industries. 1934. 5¢.
- No. 12. Introduction of Japanese Oysters into the United States. 1932. 5¢.
- No. 11. Some Unusual Markets for Fish and Shellfish. 1932. 5¢.
- No. 3. Market for Fresh Oysters in 14 Cities of the United States. 1931. 10¢.

### ECONOMIC CIRCULARS

- No. 74. Application of Preservatives to Fishing Nets. 1931. 5¢.
- No. 69. Salmon--an Economical and Valuable Food. 1929. 10¢.

### DOCUMENTS

- No. 1092. Pacific Salmon Fisheries. 1930. 65¢.
- No. 1078. Utilization of Shrimp Waste. 1930. 10¢.
- No. 1075. Net Preservative Treatments. 1930. 5¢.
- No. 1065. Bibliography on Cod-liver Oil in Animal Feeding. 1929. 10¢.
- No. 1059. Fishing Grounds of the Gulf of Maine. 1929. 25¢.

### ADMINISTRATIVE REPORTS

- No. 33. Propagation and Distribution of Food Fishes, Fiscal Year 1937. 10¢.
- No. 32. Fishery Industries of the United States, 1937. 25¢.
- No. 31. Alaska Fishery and Fur-seal Industries in 1937. 25¢.
- No. 30. Progress in Biological Inquiries, 1937. 15¢.

ORDERS FOR THE ABOVE-LISTED PUBLICATIONS SHOULD BE FORWARDED DIRECT TO THE  
SUPERINTENDENT OF DOCUMENTS, GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C.,  
AND NOT TO THE BUREAU OF FISHERIES



# PRACTICAL FISH COOKERY

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## Fishery Circular No. 19

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Few foods can furnish the quality and variety of nutritional factors which are provided in seafoods. Fish and shellfish are excellent sources of highly digestible proteins, are good sources of vitamins, and contain an abundance of minerals in quantity and variety.

Seafoods would be served much more frequently in American homes if better methods for their preparation for the table were more widely known. Consequently, the Bureau of Fisheries prepared a booklet which includes tested recipes on fish cookery. Since pan-dressing or sautéing of fish is one of the most popular methods of cookery employed by the housewife, the following successful method covering this procedure has been excerpted from this booklet:

### Pan Frying or Sautéing Fish

- 2 lbs. fillets or steaks about 5/8 in. thick,  
or 3 lbs. whole fish or fish split to about  
5/8 in. thick.
- 1 C. yellow cornmeal and flour, equal parts.
- 1 1/3 Tbsp. salt.
- 4 Tbsp. cooking fat or oil.

Heat fat over a slow fire in a heavy cast-metal pan if available. Cut fish to service portions. Sift together the cornmeal, flour, and salt. Dip fish in water and cover well with dry ingredients. At the first sign of the fat smoking, place the fish in the pan and cook 3 minutes. Cover the pan and remove it from fire to allow fish to cook in its own steam about 2 minutes. Remove cover, turn fish, return pan to flame, and cook 3 minutes longer. Fish less than 5/8 in. thick will require a shorter cooking time, while thicker fish will require longer cooking.

The booklet also includes general information on broiling, baking, boiling, and planking of fish, and in addition includes specific recipes for the preparation of oysters, shrimp, crabs, clams, lobsters, scallops, salted fish, smoked fish, chowders, flaked fish, and fish sauces.

This booklet may be obtained from the Superintendent of Documents, Government Printing Office, this city, by requesting Fishery Circular No. 19, entitled "Practical Fish Cookery", by Agnes I. Webster and W. T. Conn. The cost per copy is 5 cents.

## SOME EFFECTS OF ULTRAVIOLET IRRADIATION OF HADDOCK FILLETS

Investigational Report No. 43

Ultraviolet irradiation not only retards the action of bacteria in fish but also increases the vitamin D content, according to experiments made on haddock fillets by Bureau of Fisheries technologists Joseph F. Puncochar, William B. Latham, Jr., and Hugo W. Nilson in Investigational Report No. 43, entitled "Some Effects of Ultraviolet Irradiation of Haddock Fillets".

The report, based on the results of these experiments, brought out the following interesting facts among others:

1. Preliminary tests show that an irradiation of one hour on each side markedly reduces the bacterial count of haddock fillets without significantly affecting the appearance, texture, or dry matter content.
2. This comparatively long period of irradiation had no adverse affect on the nutritive value of the protein and increased the vitamin D content.
3. These tests also show that four out of five cultures of bacteria isolated from market fillets were destroyed by only a 2-minute exposure.

The complete report may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents.

